

## ABSTRACT

[0001] The present invention is to provide a charge pump circuit for improving switching speed and compensating mismatch between a source and a sink currents flowing to output terminal. A charge pump circuit according to the first embodiment of the present invention comprises a first and second switching elements, a discharging and charging elements, a biasing unit, a first and second compensating unit, a charge pumping unit, a current mirror unit, a contol unit, and a biasing unit. The compensating circuit removes the deterioration owing to the parasitic capacitance, and the control circuit controls the charge that is flowed or emitted from the parasitic capacitance. A charge pump circuit according to the second embodiment of the present invention comprises a charge pumping unit, a current mirror unit, a contol unit a biasing unit. The charge pump circuit detects the mismatch between the output currents via the control unit, and compensates the mismatch by the biasing unit.